

SECTION C Descriptions and Specifications

C.1 Introduction: The Naval Surface Warfare Center, Carderock Division, Philadelphia is replacing and modifying existing gas turbine fuel systems on DDG-51, DD-963 and CG-47 Navy Ships to provide air assist capability to enable proper starting of the U.S. Navy 501-K17 or K34 gas turbine engines equipped with newly designed air assist fuel nozzles.

C.2 Scope:

C.2.1. The Contractor shall provide the necessary supplies, services, materials, and facilities to manufacture two hundred (200) air assist supply manifold assembly that meet or exceed the U. S. Navy designed manifold P/N 7625042 revision B. Any alternate design must perform in an identical fashion as the design shown in NAVSEA drawing 7625042 revision B and all interface dimension shall be such that any part may be interchanged with a component manufactured in accordance with the same. Any modification shall permit form, fit and function when installed on a U.S. Navy 501-K17 or K34 gas turbine engine. All material composition shall conform to the drawing requirements and all weld designs shall be equivalent in strength to those specified on the U. S. Navy drawings. The nominal flow requirements for this design shall permit 18 CFM air flow to the manifold with a regulated air pressure of 35 PSIG supply from the regulator system. The airflow to each nozzle (outlet) shall be at 15-17 PSIG under the stated inlet conditions.

C.2.2. The manufactured manifold assemblies shall provide all material specified on NAVSEA drawing 7625042 revision B with the exception of item 4, check valves, P/N CVH-019 and item 5, O-rings, P/N M83248/1-904. The Naval Surface Warfare Center will install the check valves after manifold is delivered.

C.2.3 Welding shall conform to NAVSEA S9074-AR-GLB-010/278, Class P-2, process GMAW or GTAW, weld and inspections symbols used on the attached drawings conform to ANSI/AWS A2.4.

C.2.4. Manifold Assembly shall be hydraulically pressure tested to 300 psig, in accordance with SAE AMS 2615E, Class A.

C.2.5. Contractor shall provide metal tag indicating drawing number, hydro pressure and date. Attach to hose using metal or self-cinching straps. Material shall be aluminum alloy ASTM B209, Alloy 1100 or 5052, or 300 series CRES.

C.3 Applicable Documents

(1) NAVSEA drawing 7625042 revision B. Drawing Item 4, check valves, P/N CVH-019 and item 5, O-Rings, P/N M83248/1 are excluded. (The excluded items were previously procured by the Navy).

(2) DOD Data Item Description, DI-ENVR-80706, DD form 1664

C.4 Performance Requirements

The manufactured air assist supply manifold assembly shall function in all regards and meet all dimensional interface requirements as specified in NAVSEA drawing 7625042 revision B. The flow requirements shall be in accordance with paragraph C.2.1.

C.5. Guidance. Any changes in the design shall be documented in accordance with the DOD Data Item Description, DI-ENVR-80706, DD form 1664. This form is the minimum required documentation unless the manufacturer completes shock and/or vibration test to the satisfaction of the government.

C. 6. Deliverables

- (1) Two Hundred (200) Air Assist Supply Manifold Assemblies
- (2) DOD Data Item Description, DI-ENVR-80706, DD form 16641 (if other than NAVSEA Drawings)

C.7. Optional Requirement

Drawing Package for Air Assist Manifold Assembly with Government Purpose Rights in accordance with DFARS 252.227-7013.